MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2017/2018

BFN3304 – FINANCIAL AND VALUATION MODELLING

(All sections / Groups)

12 OCTOBER 2017
9.00 a.m. - 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of **13** pages.
2. Answer **ALL THREE** questions in **THREE SEPARATE** Excel spreadsheets in **ONE SINGLE** Excel file.
3. Your Excel file should be named with your **STUDENT ID**, followed by your **NAME**, for example: **1111111623_HISHAM.xls**
4. **SAVE** your answers for all questions in the provided **THUMB-DRIVE.**
5. Please also copy your answers together with formulas onto the given templates of Excel spreadsheets in the **APPENDIX**.
6. Mark distributions are shown in the given templates.

QUESTION 1 (26 MARKS)

a. Your mother has just announced that she is going to give you RM5,000 per year at the end of each of the next 4 years. The interest rate is 4%, what is the value today of this promise? Please use three different modelling methods as shown on the spreadsheet given in the Appendix.

(14 marks)

b. Carry out a sensitivity analysis to see how the present value of the promise is sensitive to the change of the promised amount.

(6 marks)

c. Carry out a sensitivity analysis to see how the present value of the promise is sensitive to the change of the interest rate.

(6 marks)

QUESTION 2 (34 MARKS)

Suzus Inc. has just announced results that show that the free cash flow (FCF) for the past year is RM10 million. An experienced analyst believes that the growth rate of the Suzus Inc. for the next 8 years will be 10% per year and that after 10 years the growth rate will be 5% annually. Suzus's weighted average cost of capital (WACC) is 16%, and the company has 40 million shares outstanding at the end of 2016. Value the shares assuming that the FCFs occur at year end. Suzus has RM200, 000 debt and RM 1 million cash reserves. Please carry out the sensitivity analysis if the growth rate for the first 8 years is ranging from 6% to 15%.

QUESTION 3 (40 MARKS)

Consider the following two bonds,

	Bond A	**Bond B**
Term to maturity (Years)	10	20
Face value (RM)	1000	1000
Coupon rate	10%	10%
Coupon payment method	Yearly	Yearly

a. Follow the template given in the Appendix and choose a suitable Excel formula to model bond prices for Bond A and Bond B above.

(30 marks)

b. Carry out a sensitivity analysis to see how the prices of Bond A and Bond B are sensitive to the change of the interest rate.

(10 marks)

End of Page

APPENDIX: TEMPLATES FOR ALL QUESTIONS

The given templates in this Appendix are:

1. to be followed exactly when carrying out your modeling in the Microsoft Excel for all of the four given questions.

2. to be used to record answers produced in your Excel spreadsheets for all of the four given questions as follows:

   - Each resulted value should be recorded on the correct cell as it appears on your actual excel spreadsheet in the Microsoft Excel.

   - Formula for each recorded value should be recorded in the 'Excel Formula' column.

   - Formulas for more than one columns can be entered in one single excel cell under the Excel-Formula column and spaced from one another with a slash sign "/".

ANSWER FOR QUESTION 1 (26 MARKS):

	A	B	C	D	E
1	**INPUT ZONE**				
2	Interest rate (%)				
3	Annual gift amount (RM)				
4	Number of periods (years)				
5					
6	**MODELLING ZONE**				
7	**Year**	**Gift (RM)**	**Present value (RM)**	**EXCEL FORMULA**	
8	1				(2 marks)
9	2				(2 marks)
10	3				(2 marks)
11	4				(2 marks)
12					
13	Present value (Using SUM formula)				(2 marks)
14	Present value (Using NPV formula)				(2 marks)
15	Present value (Using PV formula)				(2 marks)

ANSWER FOR QUESTION 1 (26 MARKS) (CONTINUED...)

	A	B	C	D	E
17	**SENSITIVITY ANALYSIS**	**Gift (RM)**	**Present value (RM)**	**EXCEL FORMULA**	
18					(1 mark)
19		1000			(0.5 mark)
20		2000			(0.5 mark)
21		3000			(0.5 mark)
22		4000			(0.5 mark)
23		5000			(0.5 mark)
24		6000			(0.5 mark)
25		7000			(0.5 mark)
26		8000			(0.5 mark)
27		9000			(0.5 mark)
28		10000			(0.5 mark)

ANSWER FOR QUESTION 1 (26 MARKS) (CONTINUED...)

	A	B	C	D	E
29					
30		Interst Rate (%)	Present value (RM)	EXCEL FORMULA	
31					(1 mark)
32		1%			(0.5 mark)
33		2%			(0.5 mark)
34		3%			(0.5 mark)
35		4%			(0.5 mark)
36		5%			(0.5 mark)
37		6%			(0.5 mark)
38		7%			(0.5 mark)
39		8%			(0.5 mark)
40		9%			(0.5 mark)
41		10%			(0.5 mark)

ANSWER FOR QUESTION 2 (34 MARKS):

	A	B	C
1	**INPUT ZONE**		
2	Base year FCF		
3	WACC		
4	High growth rate, g_{high}		
5	Normal growth rate, g_{normal}		
6	Number of high growth years		
7	Debt (RM)		
8	Cash		
9	Number of shares, end 2016		

ANSWER FOR QUESTION 2 (34 MARKS) (CONTINUED...):

	A	B	C	D
10				
11	**MODELLING ZONE**		**Excel Formula**	
12	Term 1 factor: $(1+g_{high})/(1+WACC)$			(4 marks)
13				
14	Term 1: PV of high-growth cash flows			(4 marks)
15	Term 2: PV of normal-growth cash flows			(4 marks)
16	Enterprise value			(4 marks)
17	Add cash			(4 marks)
18	Subtract debt			(4 marks)
19	Value of equity			(4 marks)
20				
21	Share value			(2 marks)
22				

ANSWER FOR QUESTION 2 (34 MARKS) (CONTINUED...):

	A	B	C	D
24	**Sensitivity Analysis**			
25				
26	High growth rate, g_{high}	**Share Price**	**Excel Formula**	
27				(2 marks)
28	6%			(4 marks)
29	7%			
30	8%			
31	9%			
32	10%			
33	11%			
34	12%			
35	13%			
36	14%			
37	15%			
38				

ANSWER FOR QUESTION 3 (40 MARKS):

	A	B	C	D
1	**INPUT ZONE**			
2		**Bond A**	**Bond B**	
3	Term to maturity (Years)			
4	Face value (RM)			
5	Coupon rate			
6	Coupon payment method			
7				
8	Interest rate			

ANSWER FOR QUESTION 3 (40 MARKS) (CONTINUED...):

	A	B	C	D	E
10	**MODELLING ZONE**				
11		**Bond A**	**Bond B**	**Excel Formula**	
12	Annual coupon payment				(4 marks)
13	**Bond A's Price**				
14	Year	**Cash Flows for Bond A**	**Cash Flows for Bond B**	**Excel Formula**	
15	1				(1 mark)
16	2				(1 mark)
17	3				(1 mark)
18	4				(1 mark)
19	5				(1 mark)
20	6				(1 mark)
21	7				(1 mark)

ANSWER FOR QUESTION 3 (40 MARKS) (CONTINUED...):

	A	B	C	D	E
22	8				(1 mark)
23	9				(1 mark)
24	10				(1 mark)
25	11				(1 mark)
26	12				(1 mark)
27	13				(1 mark)
28	14				(1 mark)
29	15				(1 mark)
30	16				(1 mark)
31	17				(1 mark)
32	18				(1 mark)
33	19				(1 mark)
34	20				(1 mark)

ANSWER FOR QUESTION 3 (40 MARKS) (CONTINUED...):

	A	B	C	D	E
36	**Bond price**				(6 marks)
37					
38	**SENSITIVITY ANALYSIS**				
39	**Interest Rate**	**Bond A's Price**	**Bond B's Price**	**Excel Formula**	
40					(4 marks)
41	1%				(6 marks)
42	2%				
43	3%				
44	4%				
45	5%				
46	6%				
47	7%				
48	8%				
49	9%				
50	10%				